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Wide Range of Applications for Sea Bacteria

Scientists at the Royal Netherlands Institute for Sea Research (NIOZ) and the University of Amsterdam (UvA) are going to try to find and win previously unknown micro-organisms from the sea. These micro-organisms may subsequently be used for the development of new medicine, biofuel or other applications.

NIOZ and UvA will supervise micro-biologists from various European universities and biotech and pharmaceutical companies that join hands to isolate micro-organisms from the sea that up to now could not be grown. In the coming four years, they intend to develop revolutionary, new methods for isolating and screening micro-organisms. These micro-organisms may subsequently be grown in the lab. The MaCuMBA project (Marine Micro-Organisms: Cultivation Methods for Improving their Biotechnological Applications) is funded by the European Committee and costs over €12 million.

Widest Genetic Diversity

The genetic diversity of the estimated number of 10^{29} bacteria (about 1 million per ml of sea water) and of the possibly 1 to 100 million different species of bacteria living in the sea exceeds that of any other living organism. Up to now, only several thousands of bacteria have been isolated and described. Bacteria are mutually dependent and communicate to be able to grow and survive. The MaCuMBA scientists will use this information to delude the bacteria so that they can be grown in bioreactors.

Samples from Extreme Environments

The majority of the sea bacteria is expected to have a wide range of applications in the fields of medicine, biofuel, polymers, and other biologically active substances or processes. Samples taken in extreme environments, such as submarine volcanoes, hot springs and highly saline environments in the deep sea, will be used to try and find bacteria with unusual characteristics.

The official start of the MaCuMBA project is a two-day meeting of all research teams and companies involved at the EYE Film Institute in Amsterdam on 29 and 30 October.

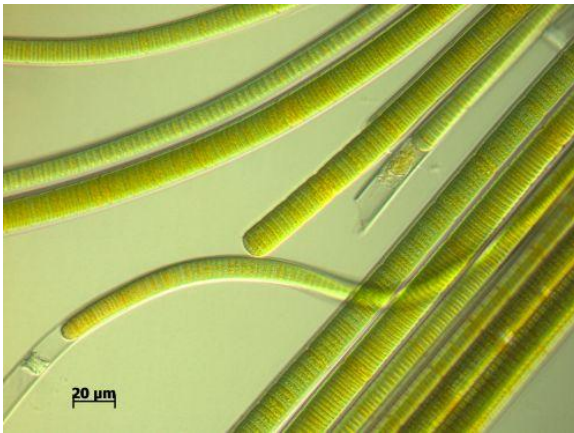
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More information:

Prof. Lucas J. Stal, +31 (0)113 - 577 497 or +31 (0)6 - 51 82 10 96, lucas.stal@nioz.nl

Nienke Bloksma, NIOZ Communication: +31 (0)222 ? 369 460 or +31 (0)6 - 53 49 47 14, nienke.bloksma@nioz.nl

www.nioz.nl



Lyngbya aestuarii, a genus of filiform cyanobacteria. *Lyngbya* can produce substances that are used for treating cancer.